

Practitioner's Docket No. 747-009336-US(PAR)

CHAPTER II

Preliminary Classification:

Proposed Class:

Subclass:

NOTE: "All applicants are requested to include a preliminary classification on newly filed patent applications. The preliminary classification, preferably class and subclass designations, should be identified in the upper right-hand corner of the letter of transmittal accompanying the application papers, for example 'Proposed Class 2, subclass 129.'" M.P.E.P., § 601, 7th ed.

**TRANSMITTAL LETTER
TO THE UNITED STATES ELECTED OFFICE (EO/US)**

(ENTRY INTO U.S. NATIONAL PHASE UNDER CHAPTER II)

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/FI98/00792 ✓	12 October 1998 ✓	13 October 1997 ✓
TITLE OF INVENTION		
METHOD OF INSTALLING A TERMINAL, AND A WIRELESS TELEPHONE SYSTEM ✓		
APPLICANT(S)		
Kimmo SAVOLAINEN ✓		

Box PCT**Assistant Commissioner for Patents****Washington D.C. 20231****ATTENTION: EO/US****CERTIFICATION UNDER 37 C.F.R. § 1.10****(Express Mail label number is mandatory.)**(Express Mail certification is optional.)*

I hereby certify that this Transmittal Letter and the papers indicated as being transmitted therewith is being deposited with the United States Postal Service on this date April 12, 2000, in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EL336863139US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Carm Marsh

(type or print name of person mailing paper)

Carm Marsh

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(Transmittal Letter to the United States Elected Office (EO/US) [13-18]—page 1 of 8)

NOTE: To avoid abandonment of the application, the applicant shall furnish to the USPTO, not later than 20 months from the priority date: (1) a copy of the international application, unless it has been previously communicated by the International Bureau or unless it was originally filed in the USPTO; and (2) the basic national fee (see 37 C.F.R. § 1.492(a)). The 30-month time limit may not be extended. 37 C.F.R. § 1.495.

WARNING: Where the items are those which can be submitted to complete the entry of the international application into the national phase are subsequent to 30 months from the priority date the application is still considered to be in the international state and if mailing procedures are utilized to obtain a date the express mail procedure of 37 C.F.R. § 1.10 must be used (since international application papers are not covered by an ordinary certificate of mailing—See 37 C.F.R. § 1.8.

NOTE: Documents and fees must be clearly identified as a submission to enter the national state under 35 U.S.C. § 371 otherwise the submission will be considered as being made under 35 U.S.C. § 111. 37 C.F.R. § 1.494(f).

- I. Applicant herewith submits to the United States Elected Office (EO/US) the following items under 35 U.S.C. § 371:
- a. ☒ This express request to immediately begin national examination procedures (35 U.S.C. § 371(f)).
 - b. ☒ The U.S. National Fee (35 U.S.C. § 371(c)(1)) and other fees (37 C.F.R. § 1.492) as indicated below:

2. Fees

09/529448
422 Rec'd PCT/PTO 12 APR 2000

CLAIMS FEE	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
<input type="checkbox"/>	TOTAL CLAIMS	22	22 - 20 = 2	× \$18.00 =	\$ 36.00
	INDEPENDENT CLAIMS	2	2 - 3 = 0	× \$78.00 =	0
	MULTIPLE DEPENDENT CLAIM(S) (if applicable)				+ \$260.00
BASIC FEE**	<input type="checkbox"/> U.S. PTO WAS INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY Where an International preliminary examination fee as set forth in § 1.482 has been paid on the international application to the U.S. PTO: <input type="checkbox"/> and the international preliminary examination report states that the criteria of novelty, inventive step (non-obviousness) and industrial activity, as defined in PCT Article 33(1) to (4) have been satisfied for all the claims presented in the application entering the national stage (37 C.F.R. § 1.492(a)(4)) \$96.00 <input type="checkbox"/> and the above requirements are not met (37 C.F.R. § 1.492(a)(1)) \$670.00 <input checked="" type="checkbox"/> U.S. PTO WAS NOT INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY Where no international preliminary examination fee as set forth in § 1.482 has been paid to the U.S. PTO, and payment of an international search fee as set forth in § 1.445(a)(2) to the U.S. PTO: <input type="checkbox"/> has been paid (37 C.F.R. § 1.492(a)(2)) \$690.00 <input checked="" type="checkbox"/> has not been paid (37 C.F.R. § 1.492(a)(3)) \$970.00 <input type="checkbox"/> where a search report on the international application has been prepared by the European Patent Office or the Japanese Patent Office (37 C.F.R. § 1.492(a)(5)) \$840.00				970.00
	Total of above Calculations				= 1,006.00
SMALL ENTITY	Reduction by 1/2 for filing by small entity, if applicable. Affidavit must be filed also. (note 37 C.F.R. § 1.9, 1.27, 1.28)				-
	Subtotal				1,006.00
	Total National Fee				\$ 1,006.00
	Fee for recording the enclosed assignment document \$40.00 (37 C.F.R. § 1.21(h)). (See Item 13 below). See attached "ASSIGNMENT COVER SHEET".				40.00
TOTAL	Total Fees enclosed				\$ 1,046.00

(Transmittal Letter to the United States Elected Office (EO/US) [13-18]—page 3 of 8)

App Rec'd PCT/PTO 12 APR 2000

*See attached Preliminary Amendment Reducing the Number of Claims.

- i. ☒ A check in the amount of \$1,046.00 to cover the above fees is enclosed.
- ii. ☐ Please charge Account No. _____ in the amount of \$ _____.
A duplicate copy of this sheet is enclosed.

****WARNING:** "To avoid abandonment of the application the applicant shall furnish to the United States Patent and Trademark Office not later than the expiration of 30 months from the priority date: * * * (2) the basic national fee (see § 1.492(a)). The 30-month time limit may not be extended." 37 C.F.R. § 1.495(b).

WARNING: If the translation of the international application and/or the oath or declaration have not been submitted by the applicant within thirty (30) months from the priority date, such requirements may be met within a time period set by the Office. 37 C.F.R. § 1.495(b)(2). The payment of the surcharge set forth in § 1.492(e) is required as a condition for accepting the oath or declaration later than thirty (30) months after the priority date. The payment of the processing fee set forth in § 1.492(f) is required for acceptance of an English translation later than thirty (30) months after the priority date. Failure to comply with these requirements will result in abandonment of the application. The provisions of § 1.136 apply to the period which is set. Notice of Jan. 3, 1993, 1147 O.G. 29 to 40.

3. ☒ A copy of the International application as filed (35 U.S.C. § 371(c)(2)):

NOTE: Section 1.495 (b) was amended to require that the basic national fee and a copy of the international application must be filed with the Office by 30 months from the priority date to avoid abandonment. "The International Bureau normally provides the copy of the international application to the Office in accordance with PCT Article 20. At the same time, the International Bureau notifies applicant of the communication to the Office. In accordance with PCT Rule 47.1, that notice shall be accepted by all designated offices as conclusive evidence that the communication has duly taken place. Thus, if the applicant desires to enter the national stage, the applicant normally need only check to be sure the notice from the International Bureau has been received and then pay the basic national fee by 30 months from the priority date." Notice of Jan. 7, 1993, 1147 O.G. 29 to 40, at 35-36. See item 14c below.

- a. ☐ Is transmitted herewith.
- b. ☐ Is not required, as the application was filed with the United States Receiving Office.
- c. ☒ has been transmitted
 - i. ☒ by the International Bureau.
Date of mailing of the application (from form PCT/1B/308): 4/22/99.
 - ii. ☐ by applicant on _____
Date

4. ☐ A translation of the International application into the English language (35 U.S.C. § 371(c)(2)):

- a. ☐ is transmitted herewith.
- b. ☐ Is not required as the application was filed in English.
- c. ☐ was previously transmitted by applicant on _____
Date
- d. ☐ will follow.

5. ☒ Amendments to the claims of the International application under PCT Article 19 (35 U.S.C. § 371(c)(3)):

NOTE: The Notice of January 7, 1993 points out that 37 C.F.R. § 1.495(a) was amended to clarify the existing and continuing practice that PCT Article 19 amendments must be submitted by 30 months from the priority date and this deadline may not be extended. The Notice further advises that: "The failure to do so will not result in loss of the subject matter of the PCT Article 19 amendments. Applicant may submit that subject matter in a preliminary amendment filed under section 1.121. In many cases, filing an amendment under section 1.121 is preferable since grammatical or idiomatic errors may be corrected." 1147 O.G. 29-40, at 36.

- a. ☐ are transmitted herewith.
- b. ☐ have been transmitted
 - i. ☐ by the International Bureau.
Date of mailing of the amendment (from form PCT/1B/308): _____
 - ii. ☐ by applicant on (date) _____
Date
- c. ☒ have not been transmitted as
 - i. ☒ applicant chose not to make amendments under PCT Article 19.
Date of mailing of Search Report (from form PCT/ISA/210): 4/22/1999
 - ii. ☐ the time limit for the submission of amendments has not yet expired.
The amendments or a statement that amendments have not been made will be transmitted before the expiration of the time limit under PCT Rule 46.1.

6. ☒ A translation of the amendments to the claims under PCT Article 19 (38 U.S.C. § 371(c)(3)):

- a. ☐ is transmitted herewith.
- b. ☐ is not required as the amendments were made in the English language.
- c. ☒ has not been transmitted for reasons indicated at point 5(c) above.

7. ☒ A copy of the international examination report (PCT/IPEA/409)

- ☒ is transmitted herewith.
- ☐ is not required as the application was filed with the United States Receiving Office.

8. ☒ Annex(es) to the international preliminary examination report

- a. ☒ is/are transmitted herewith.
- b. ☐ is/are not required as the application was filed with the United States Receiving Office.

9. ☒ A translation of the annexes to the international preliminary examination report

- a. ☐ is transmitted herewith.
- b. ☒ is not required as the annexes are in the English language.

10. ☒ An oath or declaration of the inventor (35 U.S.C. § 371(c)(4)) complying with 35 U.S.C. § 115
- a. ☐ was previously submitted by applicant on _____
Date
- b. ☒ is submitted herewith, and such oath or declaration
- i. ☒ is attached to the application.
- ii. ☐ identifies the application and any amendments under PCT Article 19 that were transmitted as stated in points 3(b) or 3(c) and 5(b); and states that they were reviewed by the inventor as required by 37 C.F.R. § 1.70.
- iii. ☐ will follow.

II. Other document(s) or information included:

11. ☒ An International Search Report (PCT/ISA/210) or Declaration under PCT Article 17(2)(a):
- a. ☒ is transmitted herewith.
- b. ☐ has been transmitted by the International Bureau.
Date of mailing (from form PCT/IB/308): _____
- c. ☐ is not required, as the application was searched by the United States International Searching Authority.
- d. ☐ will be transmitted promptly upon request.
- e. ☐ has been submitted by applicant on _____
Date
12. ☒ An Information Disclosure Statement under 37 C.F.R. §§ 1.97 and 1.98:
- a. ☒ is transmitted herewith.
Also transmitted herewith is/are:
☒ Form PTO-1449 (PTO/SB/08A and 08B).
☒ Copies of citations listed.
- b. ☐ will be transmitted within THREE MONTHS of the date of submission of requirements under 35 U.S.C. § 371(c).
- c. ☐ was previously submitted by applicant on _____
Date
13. ☒ An assignment document is transmitted herewith for recording.
A separate ☒ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☐ FORM PTO 1595 is also attached.

NE-PRODUCTS OY

14. ☒ Additional documents:

- a. ☒ Copy of request (PCT/RO/101)
- b. ☒ International Publication No. WO 99/20070
 - i. ☒ Specification, claims and drawing
 - ii. ☐ Front page only
- c. ☒ Preliminary amendment (37 C.F.R. § 1.121)
- d. ☒ Other
PCT/RO/101; PCT/IB/303; PCT/IB/332; PCT/IPEA/409 including annexes
Finnish Office Action

15. ☒ The above checked items are being transmitted

- a. ☒ before 30 months from any claimed priority date.
- b. ☐ after 30 months.

16. ☐ Certain requirements under 35 U.S.C. § 371 were previously submitted by the applicant on _____, namely:

AUTHORIZATION TO CHARGE ADDITIONAL FEES

WARNING: Accurately count claims, especially multiple dependant claims, to avoid unexpected high charges if extra claims are authorized.

NOTE: "A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

NOTE: "Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

- ☒ The Commissioner is hereby authorized to charge the following additional fees that may be required by this paper and during the entire pendency of this application to Account No. 16-1350.

- ☒ 37 C.F.R. § 1.492(a)(1), (2), (3), and (4) (filing fees)

WARNING: Because failure to pay the national fee within 30 months without extension (37 C.F.R. § 1.495(b)(2)) results in abandonment of the application, it would be best to always check the above box.

☒ 37 C.F.R. § 1.492(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.492(d)), it might be best not to authorize the PTO to charge additional claim fees, except possible when dealing with amendments after final action.

☒ 37 C.F.R. § 1.17 (application processing fees)

☐ 37 C.F.R. § 1.17(a)(1)-(5) (extension fees pursuant to § 1.136(a).

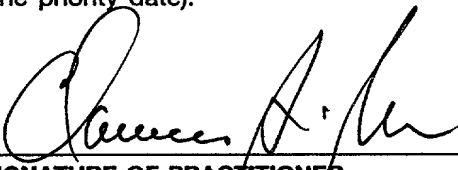
☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

NOTE: 37 C.F.R. § 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying . . . issue fee." From the wording of 37 C.F.R. § 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

☒ 37 C.F.R. § 1.492(e) and (f) (surcharge fees for filing the declaration and/or filing an English translation of an International Application later than 30 months after the priority date).

PLEASE SEND ALL CORRESPONDENCE TO:


SIGNATURE OF PRACTITIONER

Reg. No.: 24,622

Clarence A. Green

Tel. No.: (203) 259-1800

(type or print name of practitioner)

PERMAN & GREEN, LLP

Customer No.:

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Express Mail No.: EL336863139US

In re Application of: Kimmo SAVOLAINEN

INTERNATIONAL APPLICATION NO.: PCT/FI98/00792

INTERNATIONAL FILING DATE: 12 October 1998

U.S. SERIAL NUMBER:

FILING DATE: Herewith

TITLE: METHOD OF INSTALLING A TERMINAL, AND A WIRELESS
TELEPHONE SYSTEM

ATTORNEY DOCKET NO.: 747-009336-US(PAR)

Box PCT
The Commissioner of Patents and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

Please amend the above-identified, enclosed patent application as follows:

IN THE CLAIMS:

Please amend the Claims attached to the Preliminary Examination Report as
Annexes, as shown below.

Claim 6, line 1, delete "or 5".

Claim 11, line 1, delete "any one of the preceding claims" and insert --claim 1--.

Claim 12, line 1, delete "any one of the preceding claims" and insert --claim 1--.

Claim 13, line 1, delete "any one of the preceding claims" and insert --claim 1--.

Claim 14, line 1, delete "any one of the preceding claims" and insert --claim 1--.

Claim 17, line 1, delete "claim 17" and insert --claim 16--.

Claim 18, line 1, delete "17" and insert --16--.

Claim 19, lines 1 and 2, delete "any one of the claims 17 to 19" and insert --claim 16--.

Claim 20, lines 1 and 2, delete "any one of the claims 17 to 19" and insert --claim 16--.

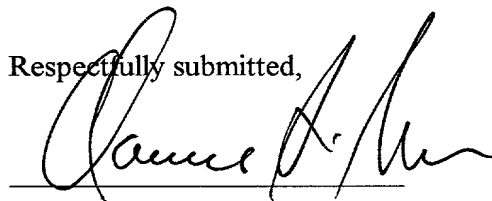
Claim 21, lines 1 and 2, delete "any one of the claims 17 to 19" and insert --claim 16--.

Claim 22, lines 1 and 2, delete "any one of the claims 17 to 19" and insert --claim 16--.

REMARKS

Please enter this preliminary amendment prior to calculation of the fees.

Respectfully submitted,



Clarence A. Green, Reg. No. 24,622
PERMAN & GREEN, LLP
425 Post Road
Fairfield, CT 06430
(203) 259-1800



Date

METHOD OF INSTALLING A TERMINAL, AND A WIRELESS TELEPHONE SYSTEM

FIELD OF THE INVENTION

The invention relates to a method of installing a terminal in a telephone system comprising a number of terminals, and a management system which controls and monitors the operation of the terminals having device-specific operational parameters set by the management system.

BACKGROUND OF THE INVENTION

As cellular radio systems become increasingly common and their coverage areas grow more extensive and as they often replace systems implemented by fixed line telephone connections, it has become necessary to develop telephone systems which utilize cellular radio systems. Such telephones are needed for example in regions where no fixed line telephone connections exist, or in applications in which a terminal is placed in an environment where no connection with a fixed network is easily available, such as moving vehicles. The present invention can be applied particularly to systems implemented by cellular radio systems.

Such systems and terminals are, for example, pay phones, so-called wireless local loop (WLL) terminals, payment terminals in stores and mobile smart card terminals by which money is transferred between a bank and a smart card.

Let us first examine pay phone systems. An important characteristic of a pay phone for the pay phone operator is the control and monitoring of the pay phone. Consequently, pay phone systems comprise a management system. The pay phones convey control and monitoring information to the management system. This information comprises traffic and failure reports, notifications of maintenance need, in coin box telephones the number of coins, in card phones the information on cards used, the manner of communication with the management system, etc. The management system, in turn, controls the operation of the pay phones by setting the parameters of the pay phones. Such phone-specific parameters include the phone number, the tariff information on the calls, the phone card types accepted, the language options of the phone and the voice volume.

Some operational parameters can be given default values already at the factory when the devices are being manufactured and delivered to the operator. Most operational parameters are, however, dependent on the loca-

tion of the telephone. In the tariff information, for example, a local call has different initial numbers at different locations. Hence, all operational parameters cannot be set in the devices at the factory, since no information exists on the future location of the devices. This applies also to so-called SIM cards which are used in GSM-based phones. Not until when the devices are put to use in the target country are the SIM cards installed in the pay phones by the operator.

Hence, most operational parameters have thus far been fed to the pay phone to be installed in connection with the installation. The task has been performed manually via the telephone user interface. Alternatively, memory circuits having different contents have been manufactured, and in connection with the installation a memory circuit comprising the correct information has been installed in the telephone. Furthermore, the specific phone number of the device has been fed to it. These procedures usually take about 20 minutes. Feeding the information to the device on the installation site is slow and errors are easily made. Moreover, in accordance with a further method the installer has made a call on the device to the management system of the operator in which the management system manager has loaded the device-specific information into the telephone. This alternative has enabled telephone installations to be carried out only when the management system site has been manned, and the procedure is still time-consuming.

The known methods are thus extremely problematic; the operators appreciate rapid and easy installation of pay phones.

Similar procedures and problems apply also to other telephone systems in which the terminals communicate with the management system of the telephone system. The payment terminals in stores, for example, may communicate with the management system in a similar manner and require similar operational parameters as the pay phones.

BRIEF DESCRIPTION OF THE INVENTION

The invention thus relates to a method and a system by which the prior art problems above can be solved. This is achieved by a method described in the introduction, which is characterized in that when a new terminal is put to use in the system for the first time, the terminal sends the management system a message indicating the terminal in question, and that the man-

agement system starts controlling the terminal on the basis of the message and sends the necessary operational parameters to the terminal.

The invention further relates to a telephone system comprising a number of terminals and a management system which controls and monitors the operation of the terminals which are arranged to store and use the device-specific operational parameters set by the management system. The telephone system of the invention is characterized in that the terminal of the system comprises means for detecting when the terminal is put to use in the system for the first time, and means for sending a message indicating the terminal in question to the management system which is arranged to start controlling the terminal on the basis of the message and send the necessary operational parameters to the terminal.

The preferred embodiments of the invention are disclosed in the dependent claims.

Several advantages can be achieved by the method and system of the invention. At the factory, all devices to be delivered to the customers can be delivered with the same settings and software, which significantly simplifies the logistics. It is relevant for the operator that the installation becomes easier and swifter. The automation of installation reduces potential errors. Installations can be carried out irrespective of whether the management system is manned or not.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described in closer detail in connection with the preferred embodiments with reference to the accompanying drawings, in which

Figure 1 is a diagram illustrating a structure of a telephone system,

Figure 2 is a diagram illustrating another structure of a telephone system,

Figure 3 is a block diagram showing an example of the structure of the pay phone terminal of the system in accordance with the invention.

DETAILED DESCRIPTION OF THE INVENTION

In the following, the invention will be described in closer detail using a pay phone system which is implemented by the digital GSM mobile phone system as an example without restricting to it, however. It will be obvious that the solution of the invention can be implemented with slight modifications in

any telephone system implemented by other techniques, in which the terminals have device-specific operational parameters set by the management system.

Figure 1 illustrates a structure of a pay phone system implemented in a cellular radio system. The system comprises a number of pay phones 100 to 102, each connected to base stations 108 to 110 via radio paths 104 to 106. For the radio path and the base station, the terminals operating as pay phones do not differ from regular subscriber terminals in any way. The base stations 108 to 110 typically communicate with base station controllers 116 to 118, each controlling several base stations, via transmission lines 112 to 114 which can be implemented by means of an optical cable, a copper cable or a link connection. The base station controllers 116 to 118, in turn, communicate with a mobile switching centre 124 via transmission lines 120 to 122, said mobile switching centre controlling the operation of the base station controllers and forwarding the calls of the terminals to a fixed network or to the other parts of the cellular radio system via transmission lines 126.

The pay phone system further comprises a management system 128 which controls and monitors the operation of the pay phones 100 to 102. In the GSM system used as an example, the control equipment 128 in the pay phone system is connected utilizing, for example, an X.25 interface 130, to a short message service centre 132 which, in turn, is connected to GSM cellular networks and their mobile switching centres. The above description of a cellular radio system thus applies to the GSM system, but it is obvious that although in the other systems the detailed structure deviates from the described one, the structures are similar in relevant parts. It should be noted that also in the GSM system the pay phone system can be implemented without the short message service centre by connecting the control equipment 128 of the pay phone system to the cellular radio system in some other known ways, by a modem, for example.

Let us examine a situation in which a new pay phone 134 is to be installed in the system. In the solution of the invention the pay phone is arranged to detect when a device is switched on for the first time. This can be implemented by a so-called "first use" flag, in other words by setting a predetermined memory location to a particular value. When the device is switched on after the physical installation, the device reads the contents of the memory location and on account of the programming detects that the switch-on is the

first one. In such a case the device does not start its regular activity but sends the management system 128 a message 136 indicating the pay phone in question. The management system starts controlling the pay phone 134 on the basis of the message and sends the necessary operational parameters to the pay phone in a reply message 138. The operational parameters of each pay
5 phone to be installed in the system have already in advance been programmed or set in the management system. Alternatively, the management system sets the operational parameters of the pay phone to be installed in the system on the basis of the location of the pay phone.

10 The pay phone sends the message 136 as a short message, for example. The pay phone cannot know its phone number at this stage, but the short message service centre 132 attaches the number to the short message. Alternatively, in the GSM system a data call can be made. Connection data on where to and in what manner the first message 136 is to be sent has already
15 in advance been programmed in the pay phone at the factory.

The message sent by the pay phone may comprise information on the location of the pay phone in the network, for example the identifier of the base station. In such a case the location of the pay phone can thus be defined with an accuracy of the base station or the base station antenna sector. A
20 more accurate geographical estimate of the location of the pay phone can also be incorporated into the message by the GPS system, for example.

In a preferred embodiment of the invention the first message of the pay phone does not comprise information on location, but if the information is needed the management system queries the pay phone for the information
25 before setting the operational parameters.

Figure 2 illustrates another preferred embodiment of the invention. The figure shows a pay phone system from the mobile switching centre 124 onwards, the rest of the system being as described in Figure 1. However, the figure shows two management systems 128, 200 of the pay phones, the former 128 being the management system of the operator and the latter 200 the
30 management system of the pay phone manufacturer. In accordance with a preferred embodiment of the invention, the pay phone to be installed sends a message to a predetermined general management system 200, for example the system of the manufacturer. This management system 200 sends the pay
35 phone the information on the connection data about the separate management system 128 of the pay phone. Next, the pay phone sends another mes-

sage on the basis of the connection data received to its management system 128 which starts controlling the pay phone and sends the necessary operational parameters to the pay phone.

Figure 3 illustrates an example of a preferred embodiment of a pay phone of the system in accordance with the invention. The pay phone of the invention comprises a cellular radio transceiver 300, and a control unit 304 which is directly connected to a transceiver 302 without a two-wire connection. The terminal of the invention further comprises a charge collecting means 306 which is connected to the control unit 304. Depending on the implementation, the charge collecting means can accept phone cards, credit cards, smart cards and coins as means of payment. The terminal typically further comprises a selection means 310 by which the desired phone number is selected, a display unit 308 and an earpiece 312. The terminal may further comprise means 314 enabling a "hands free" facility, comprising a speaker 316 and a microphone 318 and the necessary amplifiers. If desired, some or all of the above components can be directly integrated into the transceiver 300, but they can also be implemented as separate means although structurally within the same case.

If necessary, the transceiver unit 300 serves to set up a radio connection to a base station to enable a call to be transmitted. The unit 300 is also responsible for all procedures associated with the radio path and call maintenance commonly assigned to the mobile phone.

The control unit 304 serves to control the pay phone. The control unit typically comprises a micro processor, fixed and reprogrammable memory circuits, multiplexing means and switches. The control unit controls the operation of the other units of the device, registers made calls and is responsible for charging. The operational parameters of the pay phone are usually stored in the control unit memory. These phone-specific parameters include the phone number, the tariff information on the calls to be made, the language options on the display of the phone and the voice volume. The operation of the control unit does not principally deviate from the operation of the control units of the known pay phones excluding the inventive features described here.

In the pay phone of the system in accordance with the invention, the control unit 304 detects when the pay phone is put to use in the system for the first time. This can be implemented in the way already described above by using the "first use" flag. The control unit 304 controls the transceiver unit 300

in such a manner that the unit sends the management system 128 a message indicating the pay phone in question. In the pay phone system of the invention, the management system is arranged to start controlling the pay phone on the basis of the message and send the necessary operational parameters to the pay phone. The transceiver unit 300 sends the message as a short message or as a data call, as described above. For certain parts, the method of the invention is most preferably implemented by software. For the pay phone, this applies particularly to detecting the first use, controlling the message sending, receiving the operational parameters and storing in the pay phone memory.

10 The invention is described above in closer detail using a pay phone system as an example. It is obvious that the solution of the invention can be implemented in any telephone system implemented by other techniques, in which the terminals have device-specific operational parameters set by the management system, for example systems in which the terminals are payment terminals used in stores. In such a case the operational parameters comprise, for example, information on the languages available at the terminal, the acceptable charge cards, the control information of the cards and optionally the price codes of products. Furthermore, the wireless local loop systems can also utilize the installation solution of the invention, and systems whose terminals are mobile smart card terminals by which money is transferred between a bank and a smart card.

Although the invention is described above with reference to the example in accordance with the accompanying drawings, it is to be understood that the invention is not restricted thereto but it can be modified in many ways within the scope of the inventive idea disclosed in the appended claims.

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CLAIMS

1. A method of installing a terminal in a telephone system comprising a number of terminals (100, 102), and a management system (128) which controls and monitors the operation of the terminals having device-specific operational parameters set by the management system, **characterized** in that when a new terminal (134) is put to use in the system for the first time, the terminal sends the management system (128) a message indicating the terminal in question and the location of the terminal, and that the management system starts controlling the terminal on the basis of the message and sends the necessary operational parameters to the terminal.
2. A method as claimed in claim 1, **characterized** in that the telephone system is implemented by a cellular radio system.
3. A method as claimed in claim 1, **characterized** in that the connection data on the management system has been programmed in advance in the terminal to be installed.
4. A method as claimed in claim 1, **characterized** in that after receiving the message from the new terminal, the management system sends an inquiry about the location of the terminal.
5. A method as claimed in claim 1, **characterized** in that the operational parameters of each terminal to be installed in the system have been set in the management system in advance.
6. A method as claimed in claim 4 or 5, **characterized** in that the management system sets the operational parameters of the terminal to be installed in the system on the basis of the location of the terminal.
7. A method as claimed in claim 1, **characterized** in that the terminal sends the message to a predetermined, general management system which sends information on the connection data about the separate management system of the terminal, and that the terminal sends on the basis of the connection data received another message to its management system which starts controlling the terminal and sends the necessary parameters to the terminal.
8. A method as claimed in claim 2, **characterized** in that the message is sent as a short message.
9. A method as claimed in claim 2, **characterized** in that the message is sent as a data call.

10. A method as claimed in claim 1, **characterized** in that the operational parameters comprise information on the languages available at the terminal, acceptable charge cards and their control information.

11. A method as claimed in any one of the preceding claims,
5 **characterized** in that the telephone system is a pay phone system and that the terminals are pay phones.

12. A method as claimed in any one of the preceding claims, **characterized** in that the terminals are payment terminals used in stores.

10 13. A method as claimed in any one of the preceding claims, **characterized** in that the terminals are mobile smart card terminals.

14. A method as claimed in any one of the preceding claims, **characterized** in that the terminals are wireless local loop terminals.

15 15. A method as claimed in claim 12, **characterized** in that the operational parameters comprise tariff information.

16. A telephone system comprising a number of terminals (100, 102, 134) and a management system (128) which controls and monitors the operation of the terminals which are arranged to store and use the device-specific operational parameters set by the management system, **characterized**
20 **in** that the system terminal comprises means (100) for detecting when the terminal is put to use in the system for the first time, and means (100) for sending a message indicating the terminal in question and the location of the terminal to the management system (128) which is arranged to start controlling the terminal on the basis of the message and send the necessary
25 operational parameters to the terminal.

17. A telephone system as claimed in claim 17, **characterized** in that the terminal comprises means (100) for sending the message as a short message.

18. A telephone system as claimed in claim 17, **characterized**
30 **in** that the terminal comprises means (100) for sending the message as a data call.

19. A telephone system as claimed in any one of the claims 17 to 19, **characterized** in that the telephone system is a pay phone system and that the terminals are pay phones.

35 20. A telephone system as claimed in any one of the claims 17 to 19, **characterized** in that the terminals are payment terminals used in

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stores.

21. A telephone system as claimed in any one of the claims 17 to 19, **characterized** in that the terminals are mobile smart cards.

22. A telephone system as claimed in any one of the claims 17 to 19, **characterized** in that the terminals are wireless local loop terminals.

1/2

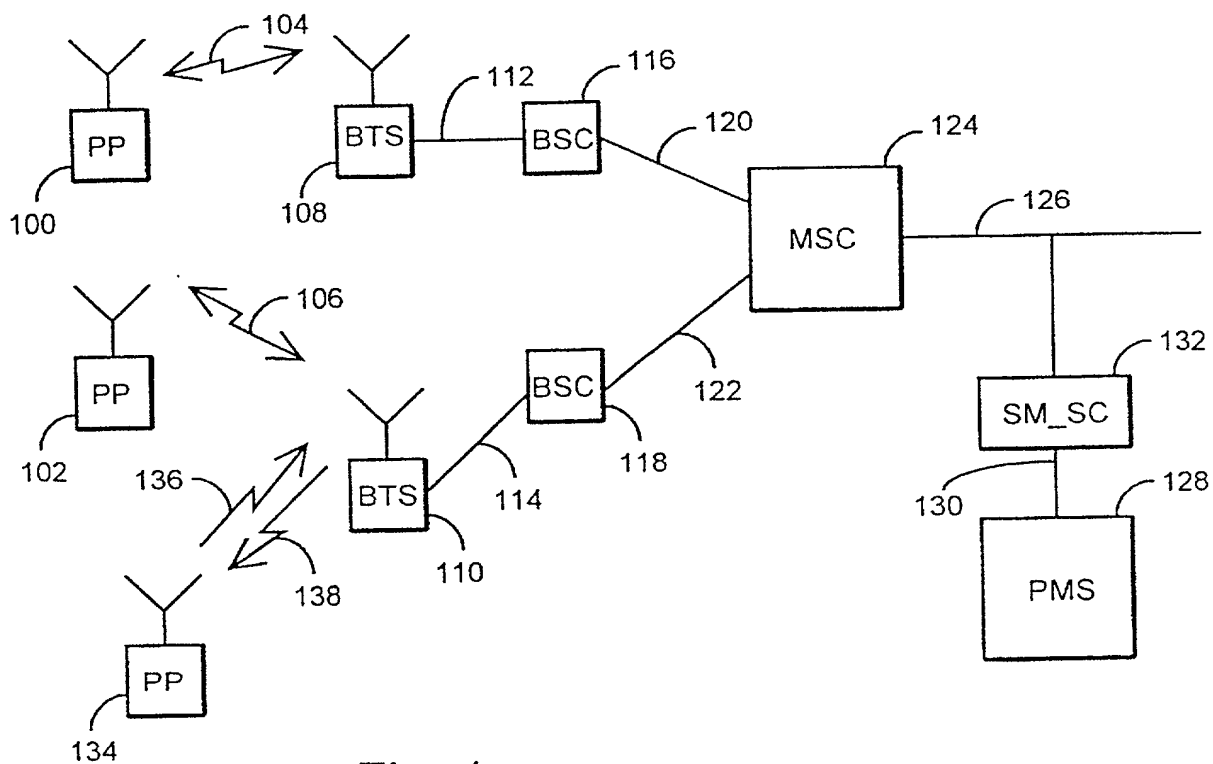


Fig. 1

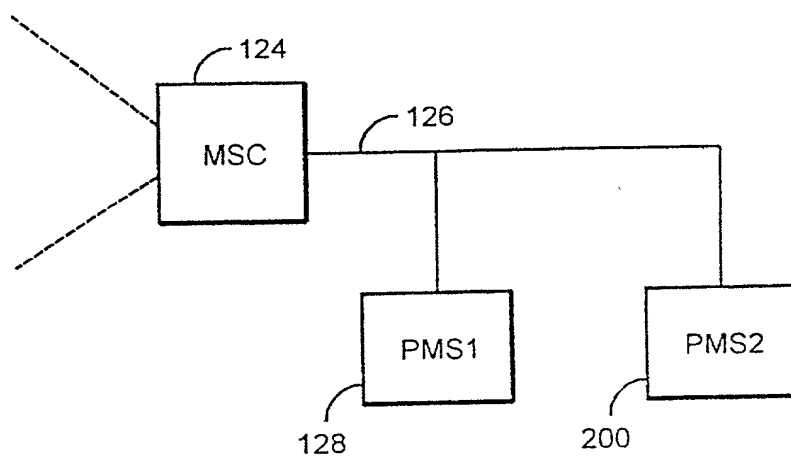


Fig. 2

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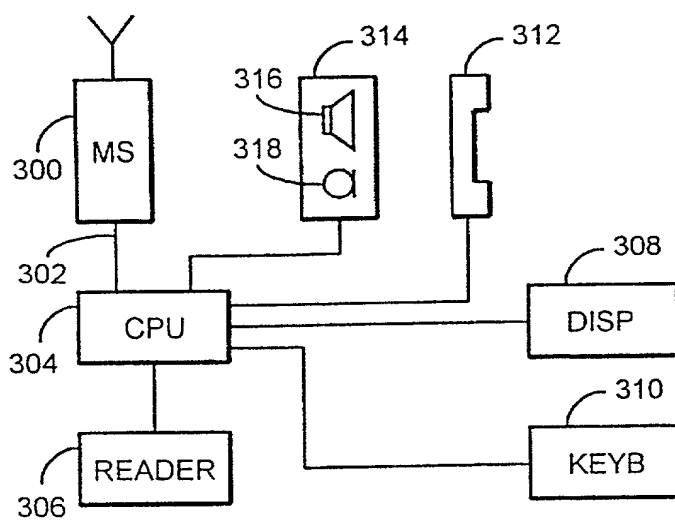


Fig. 3

Practitioner's Docket No. 747-009336-US (PAR)**PATENT**

COMBINED DECLARATION AND POWER OF ATTORNEY(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type:

(check one applicable item below)

- ☐ original.
☐ design.
☐ supplemental.

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- ☒ national stage of PCT.

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL CONTINUATION OR C-I-P.

NOTE: See 37 C.F.R. § 1.53(d) (continued prosecution application) for use of a prior nonprovisional application declaration in the continuation or divisional application being filed on behalf of the same or fewer of the inventors named in the prior application.

- ☐ divisional.
☐ continuation.

NOTE: Where an application discloses and claims subject matter not disclosed in the prior application, or a continuation or divisional application names an inventor not named in the prior application, a continuation-in-part application must be filed under 37 C.F.R. § 1.53(b) (application filing requirements — nonprovisional application).

- ☐ continuation-in-part (C-I-P).

INVENTORSHIP IDENTIFICATION

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

Method of installing a terminal, and a wireless telephone system

SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b), or (c))

(a) ☐ is attached hereto.

NOTE: "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed; or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

(b) ☐ was filed on _____, as ☐ Serial No. 0 / _____
or ☐ _____
and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

NOTE: "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and application number (consisting of the series code and the serial number; e.g., 08/123,456);

"(2) name of inventor(s), serial number and filing date;

"(3) name of inventor(s) and attorney docket number which was on the specification as filed;

"(4) name of inventor(s), title which was on the specification as filed and filing date;

"(5) name of inventor(s), title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(6) name of inventor(s), title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number; e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

Notice of July 13, 1995 (1177 O.G. 60).

(c) ☒ was described and claimed in PCT International Application No. PCT/FI98/00792 filed on 12 October 1998 and as amended under PCT Article 19 on _____ (if any).

SUPPLEMENTAL DECLARATION (37 C.F.R. § 1.67(b))

(complete the following where a supplemental declaration is being submitted)

- ☐ I hereby declare that the subject matter of the
- ☐ attached amendment
- ☐ amendment filed on _____

was part of my/our invention and was invented before the filing date of the original application, above-identified, for such invention.

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

- ☒ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM (35 U.S.C. §§ 119(a)-(d))

NOTE: "The claim to priority need be in no special form and may be made by the attorney or agent if the foreign application is referred to in the oath or declaration as required by § 1.63. The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. 119(b) must be filed in the case of an interference (§ 1.630), when necessary to overcome the date of a reference relied upon by the examiner, when specifically required by the examiner, and in all other situations, before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by a petition requesting entry and by the fee set forth in § 1.17(f). If the certified copy is not in the English language, a translation need not be filed except in the case of interference; or when necessary to overcome the date of a reference relied upon by the examiner; or when specifically required by the examiner, in which event an English language translation must be filed together with a statement that the translation of the certified copy is accurate." 37 C.F.R. § 1.55(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☐ no such applications have been filed.
- (e) ☒ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

(Declaration and Power of Attorney [1-1]—page 3 of 7)

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
FINLAND	973944	13/10/1997 ✓	<input checked="" type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER

FILING DATE

_____/_____
_____/_____
_____/_____

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. 120**

- ☐ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART (C-I-P) APPLICATION.

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

NOTE: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

2 - Clarence A. Green (24,622)
Mark F. Harrington (31,686)

(check the following item, if applicable)

- ☐ I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

☒ Address

Clarence A. Green
PERMAN & GREEN, LLP
425 Post Road
Fairfield, CT 06430

Clarence A. Green
(203) 259-1800

☐ Customer Number _____

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

Full name of sole or first inventor

1-00 Kimmo

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

SAVOLAINEN

FAMILY (OR LAST NAME)

Inventor's signature [Signature]

Date 28/03/2000 Country of Citizenship Finland

Residence Marjasuontie 1 C 15, FIN-90450 Kempele, Finland FIN

Post Office Address same as above

Full name of second joint inventor, if any

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

FAMILY (OR LAST NAME)

Inventor's signature _____

Date _____ Country of Citizenship _____

Residence _____

Post Office Address _____

Full name of third joint inventor, if any

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

FAMILY (OR LAST NAME)

Inventor's signature _____

Date _____ Country of Citizenship _____

Residence _____

Post Office Address _____

(check proper box(es) for any of the following added page(s)
that form a part of this declaration)

- ☐ Signature for fourth and subsequent joint inventors. Number of pages added _____

. . .

- ☐ Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. Number of pages added _____

. . .

- ☐ Signature for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. Number of pages added _____

. . .

- ☐ Added page for signature by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

. . .

- ☐ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added _____

. . .

- ☐ Authorization of practitioner(s) to accept and follow instructions from representative.

. . .

(if no further pages form a part of this Declaration,
then end this Declaration with this page and check the following item)

- ☒ This declaration ends with this page.